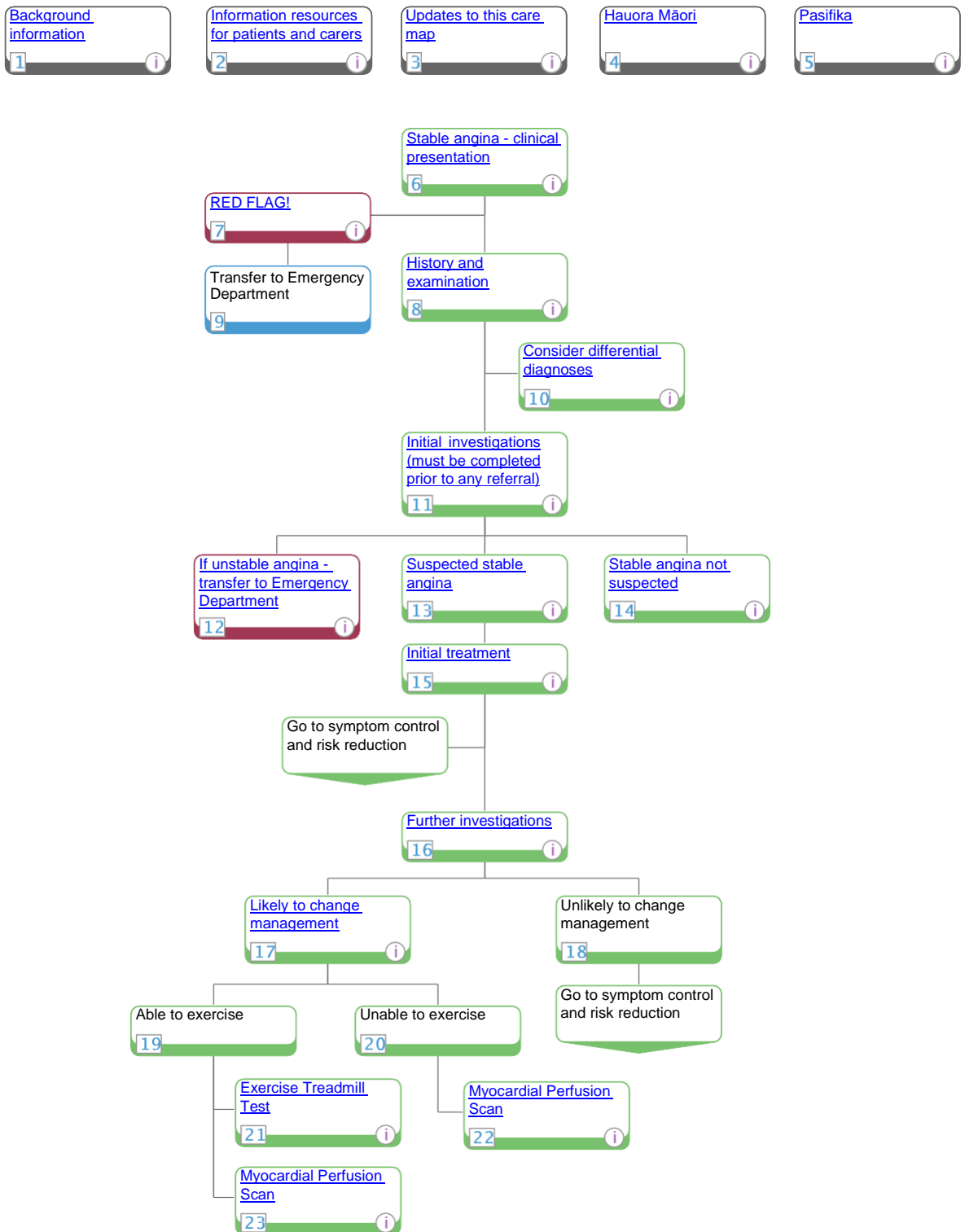


Stable angina - suspected

Medicine > Cardiology > Stable Angina

- i Information
- R Referral
- N National info
- L Local info
- Note
- Primary care
- Secondary care
- Red flag
- Information



1. Background information

Scope:

- diagnosis and management of stable angina in adults in primary care

Out of scope:

- diagnosis and management of stable angina in children and pregnant women

Definition:

- angina is chest pain due to transient myocardial ischaemia (MI) which usually occurs with physical activity or emotional stress and is relieved by rest or sublingual nitroglycerin
- angina is common, affecting 3.8% of people in New Zealand (2)
- about half of patients with ischaemic heart disease initially present with symptoms consistent with a pattern of stable angina (2)

Complications:

- cardiovascular complications, such as unstable angina and MI
- anxiety and depression
- reduced general health and quality of life

Risk factors:

- smoking
- hypertension
- dyslipidaemia
- diabetes
- family history of premature coronary artery disease (CAD)
- increasing age

Prognosis:

- the prognosis of stable angina is variable – important indicators of long-term prognosis are the extent and severity of CAD, left ventricular function, exercise duration or effort tolerance, and co-morbidities
- the prognosis depends on the point at which the person is seen e.g. new-onset angina has a worse prognosis than established angina that has remained stable for some time
- a systematic review of six articles investigated the prognosis of angina in people managed in primary care – there was significant heterogeneity among studies, but the findings were:
 - an all-cause mortality rate of 2.8-6.8% per year
 - a cardiovascular death rate of 1.4-6.5% per year
 - a non-fatal myocardial infarction rate of 0.3-5.5% per year
- the Framingham Heart Study found that for men and women with an initial presentation of stable angina, the incidences of non-fatal myocardial infarction and coronary heart disease death over two years were 14.3% and 5.5% respectively, in men and 6.2% and 3.8% in women

2. Information resources for patients and carers

Patient and carer information

- [Managing your Angina](#)

Patient and carer Action Plans

- [Angina Action Plan](#)

3. Updates to this care map

Reviewed in September 2016 and republished in October 2016.

This pathway has been reviewed in line with consideration to evidenced based guidelines - no updates were required. For further information on contributors and references please see the care map's Provenance.

4. Hauora Māori

Māori are a diverse people and whilst there is no single Māori identity, it is vital practitioners offer culturally appropriate care when working with Māori whānau. It is important for practitioners to have a baseline understanding of the issues surrounding Māori health.

This knowledge can be actualised by (not in any order of priority):

- acknowledging [Te Whare Tapa Wha \(Māori model of health\)](#) when working with Māori whānau
- asking Māori clients if they would like their whānau or significant others to be involved in assessment and treatment
- asking Māori clients about any particular cultural beliefs they or their whānau have that might impact on assessment and treatment of the particular health issue ([Cultural issues](#))
- consider the importance of [whānaungatanga \(making meaningful connections\)](#) with their Māori client / whānau
- knowledge of [Whānau Ora, Te Ara Whānau Ora and referring to Whānau Ora Navigators](#) where appropriate
- having a historical overview of legislation that has impacted on Māori well-being

For further information:

- [Hauora Māori](#)

5. Pasifika

[Pacific Cultural Guidelines \(Central PHO\) 6MB file](#)

Our Pasifika community:

- is a diverse and dynamic population:
 - more than 22 nations represented in New Zealand
 - each with their own unique culture, language, history, and health status
 - share many similarities which we have shared with you here in order to help you work with Pasifika patients more effectively

The main Pacific nations in New Zealand are:

- Samoa, Cook Islands, Fiji, Tonga, Niue, Tokelau and Tuvalu

Acknowledging [The FonoFale Model \(pasifika model of health\)](#) when working with Pasifika peoples and families.

Acknowledging general pacific guidelines when working with Pasifika peoples and families:

- [Cultural protocols and greetings](#)
- [Building relationships with your pasifika patients](#)
- [Involving family support, involving religion, during assessments and in the hospital](#)

- [Home visits](#)
- [Contact information](#)

Pasifika Health Service - Better Health for Pasifika Communities:

- the Pasifika Health Service is a service provided free of charge for:
 - all Pasifika people living in Manawatu, Horowhenua, Tararua and Otaki who have long term conditions
 - all Pasifika mothers and children aged 0-5 years
- an appointment can be made by the patient, doctor or nurse
- the Pasifika Health Service contact details are:
 - Palmerston North Office - 06 354 9107
 - Horowhenua Office - 06 367 6433
- [Better Health for Pasifika Communities brochure](#)

Additional resources:

- Ala Mo'ui - [Pathways to Pacific Health and Wellbeing 2014-2018](#)
- Primary care for pacific people: [a pacific health systems approach](#)
- Tupu Ola Moui: [The Pacific Health Chart Book 2004](#)
- Pacific Health [resources](#)
- [Central PHO Pasifika Health Service](#)

6. Stable angina – clinical presentation

Check immediately whether people currently have chest pain – if they are pain free, check when their last episode of pain was.

Determine whether the chest pain may be cardiac by considering [4]:

- history of the chest pain
- presence of cardiovascular risk factors
- history of ischaemic heart disease and any previous treatment
- previous investigations for chest pain

Suspect angina in people presenting with tight, dull, or heavy chest discomfort which is:

- retrosternal or left-sided, radiating to the left arm, neck, jaw, or back
- associated with exertion or emotional stress and relieved within several minutes by rest or glyceryl trinitrate (GTN)
- precipitated by cold weather or a meal

Some people present with atypical symptoms, including:

- breathlessness
- nausea
- epigastric discomfort or burping

Atypical symptoms are particularly likely in:

- older people
- women
- those with diabetes

Angina pain:

- is not usually sharp or stabbing or influenced by respiration
- is reproducible

- usually only lasts for minutes

7. RED FLAG!

People with chest pain at rest or on minimal exertion may have unstable angina and should be referred to emergency department:

- carry out a rapid clinical assessment rather than a comprehensive history and examination if the patient presents in pain and there is suspicion of an acute coronary syndrome (ACS)
- check immediately whether the person currently has chest pain [4]:
 - if they are pain free, check when their last episode of pain was, particularly if they have had pain in the last 12 hours

Refer people to hospital as an emergency if an ACS is suspected and:

- they currently have chest pain; or
- they are currently pain free, but have had chest pain in the last 12 hours and a resting 12-lead ECG is abnormal or not available

8. History and examination

Full history includes:

- taking a detailed clinical history documenting:
 - the age and sex of the person
 - the characteristics of the pain, including:
 - location
 - radiation
 - severity
 - duration and frequency
 - factors that provoke and relieve the pain
 - any associated symptoms, such as breathlessness
 - stability of symptoms e.g. whether the pain comes predictably, such as when exercising, or whether there are new or worsening symptoms that may require urgent investigation
 - any history of angina, myocardial infarction (MI), coronary revascularisation, or other cardiovascular disease (CVD) and any cardiovascular risk factors
- checking whether the person has any cardiovascular risk factors such as:
 - smoking
 - hypertension
 - diabetes
 - increased cholesterol

Physical examination:

- body weight and height
- blood pressure
- signs of hyperlipidaemia
- peripheral pulses and bruits
- heart sounds

10. Consider differential diagnoses

Cardiac causes of chest pain include:

- myocardial infarction (MI)
- unstable angina – people with unstable angina will often report prolonged episodes of severe angina, increasingly frequent angina, or angina at rest

- pericardial pain (for example pericarditis) – pain influenced by breathing and change in posture

Non-cardiac causes of chest pain include:

- oesophageal disorders e.g:
 - gastro-oesophageal reflux
- musculoskeletal pain e.g. costochondritis
- psychological causes e.g:
 - anxiety
 - panic attacks
 - depression
- referred pain from thoracic spine
- pleural pain, e.g:
 - infection
 - pulmonary embolism
 - tumour

People with proven cardiac chest pain can also experience non-cardiac chest pain, and they often interpret the non-cardiac pain as symptoms of heart disease. It is important to distinguish between the two causes early, in order to reduce levels of distress and avoid inappropriate treatments.

11. Initial investigations (must be completed prior to any referral)

Take the clinical assessment and the 12-Lead ECG into account when making the assessment:

- changes on a resting 12-lead ECG consistent with coronary artery disease (CAD) which may indicate
- ischaemia or previous infarction:
 - pathological Q waves in particular
 - LBBB
 - ST-segment and T wave abnormalities, e.g. flattening or inversion
- results may not be conclusive – consider resting 12-lead ECG changes together with people's clinical history and risk factors
- note that a normal resting 12-lead ECG does not rule out stable angina

Blood tests:

- full blood count (and iron studies if anaemic)
- serum creatinine and estimated glomerular filtration rate (eGFR)
- lipid profile
- HbA1c
- thyroid function test

12. If unstable angina – transfer to Emergency Department

Unstable angina exhibits ≥ 1 of 3 presentations:

- rest angina:
 - usually lasting more than 20 minutes
- new onset severe angina:
 - less than 2 months previously
- crescendo pattern of occurrence, pain increasing in:
 - intensity

- duration
- frequency
- combination of these

If unstable angina is suspected, organise immediate transfer of patient to Emergency Department.

13. Suspected stable angina

Suspected stable angina meets all three of the following characteristics:

- substernal chest discomfort of characteristic quality and duration
- provoked by exertion or emotional stress
- relieved by rest and/or nitrates within minutes

Atypical angina (probable) meets two of the above characteristics.

14. Stable angina not suspected

Investigate non-cardiac causes if low CV risk and atypical symptoms.

15. Initial treatment

Commence aspirin if no contraindications.

Beta blocker.

Provide GTN spray for the relief of symptoms.

Ensure patient is aware of the [angina action plan](#)

16. Further investigations

Access to further investigations should only be used for patients in whom the knowledge of the test result will influence patient management.

This would include:

- patients with symptoms consistent with chronic stable angina regardless of CV risk
- patients with uncertain symptoms and high cardiovascular risk

17. Likely to change management

Further investigations for suspected stable angina depend on:

- the patient's ability to exercise

21. Exercise Treadmill Test

Exercise treadmill test is recommended if patient **is able to exercise** and the resting 12 Lead ECG is normal. It can provide information on:

- function:
 - blood pressure
 - heart rate response to exercise

- symptoms:
 - relevance of exertional symptoms
 - exercise capacity
- ECG:
 - rhythm and rate changes with exercise:
 - during
 - after
 - characteristic reversible ECG changes during the test indicate:
 - ischaemia
 - approximate location of ischamia

22. Myocardial Perfusion Scan

If baseline 12 Lead ECG is abnormal (LBBB, LVH with repolarisation changes, paced rhythm, pre-excitation / WPW syndrome, digoxin effect) or patient is unable to exercise (arthritis, amputation, intermittent claudication) or severe COPD a nuclear perfusion scan will be required.

The myocardial perfusion scan uses technetium sestamibi labelled radioactive tracer and PECT (single positron emission computerised tomography). The test is performed with:

- exercise, or
- pharmacological stress:
 - adenosine
 - dobutamine

The test can provide information about:

- ventricular wall movement
- ventricular wall perfusion
- structural abnormalities e.g. cardiomyopathy
- ejection fraction

23. Myocardial Perfusion Scan

If baseline 12 Lead ECG is abnormal (LBBB, LVH with repolarisation changes, paced rhythm, pre-excitation / WPW syndrome, digoxin effect) or patient is unable to exercise (arthritis, amputation, intermittent claudication) or severe COPD a myocardial perfusion scan will be required.

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- exercise, or
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 - dobutamine

The test can provide information about:

- ventricular wall movement
- ventricular wall perfusion
- structural abnormalities e.g. cardiomyopathy
- ejection fraction
- calcium scoring

Chest Pain

Provenance Certificate

[Overview](#) | [Editorial methodology](#) | [References](#) | [Contributors](#) | [Disclaimers](#)

Overview

This document describes the provenance of MidCentral District Health Board's **chest pain** pathway. This localised pathway was last updated on 11 August 2016.

One feature of the "Better, Sooner, More Convenient" (BSMC) Business Case, accepted by the Ministry of Health in 2010, was the development of 33 collaborative clinical pathways (CCP).

The purpose of implementing the CCP Programme in our DHB is to:

- Help meet the Better Sooner More Convenient Business Case aspirational targets, particularly the following:
 - Reduce presentations to the Emergency Department (ED) by 30%
 - Reduce avoidable hospital admissions to Medical Wards and Assessment Treatment and Rehabilitation for over-65-year-olds by 20%
 - Reduce poly-pharmacy in the over-65-year-olds by 10%
- Implement a tool to assist in planning and development of health services across the district, using evidence-based clinical pathways.
- Provide front line clinicians and other key stakeholders with a rapidly accessible check of best practice;
- Enhance partnership processes between primary and secondary health care services across the DHB.

To cite this pathway, use the following format:

Map of Medicine – Chest Pain - MidCentral View. Palmerston North: Map of Medicine; 2016 (Version 3).

Editorial methodology

This care map has been based on a Map of Medicine Care Map developed according to the Map of Medicine editorial methodology. The content of the Map of Medicine care map is based on high quality guidelines and practice-based knowledge provided by contributors with front-line clinical experience (see contributors section of this document). This localised version of the evidence-based, practice informed care map has been peer-reviewed by the CCP Executive Team and with stakeholder groups.

References

This care map has been developed according to the Map of Medicine editorial methodology. The content of this care map is based on high-quality guidelines and practice-based knowledge provided by contributors with front-line clinical experience. This localised version of the evidence-based, practice-informed care map has been peer-reviewed by the CCP Executive Team and with stakeholder groups.

[1] bpac^{NZ}. (2015). The immediate management of acute coronary syndromes in primary care. *Best Practice Journal*, 67, 39-41.

[2] bpac^{NZ}. (2011). Medical management of stable angina pectoris. *Best Practice Journal*, 39, 39-47.

[3] New Zealand Transport Agency (NZTA). Medical aspects of fitness to drive. Wellington; 2009.

Contributors

The following individuals contributed to the review and update of this care map in August 2016:

- Dr Dave Mundell, Cardiologist, MidCentral Health
- Dr Esther Willis, General Practitioner, Kauri Health Care
- Dean Kinloch, Clinical Nurse Specialist Cardiac Care, MidCentral Health

The following individuals have contributed to this care map:

- Dr Laura Davidson, Cardiologist, MidCentral Health
- Dr Delamy Keall, General Practitioner, Pahiatua Medical Centre, Pahiatua
- Linda Dubbeldam, Clinical Director Tararua Health Group
- Dean Kinloch, Clinical Nurse Specialist Cardiac Care, MidCentral Health
- Karen Lombard, Community Pharmacist, MidCentral Community Pharmacy Group
- Kate Morton, Nurse Practitioner, Central City Medical

Disclaimers

CCP Executive Team, MidCentral DHB

It is not the function of the CCP Executive Team, MidCentral DHB to substitute for the role of the clinician, but to support the clinician in enabling access to know-how and knowledge. Users of the Map of Medicine are therefore urged to use their own professional judgement to ensure that the patient receives the best possible care. Whilst reasonable efforts have been made to ensure the accuracy of the information on this online clinical knowledge resource, we cannot guarantee its correctness and completeness. The information on the Map of Medicine is subject to change and we cannot guarantee that it is up-to-date.